

# A taxonomic revision of the genus *Loxoneura* Macquart from the Oriental Region, with description of one new species (Diptera: Platystomatidae)

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**Abstract:** The genus *Loxoneura* Macquart (Diptera: Platystomatidae) of the Oriental Region are revised and the generic characters are discussed. A total of 12 species are presently recognized, of which *L. tibetana* Wang et Chen from China is described as new to science. New geographical distributions of five species are reported, among which *L. fascialis* Kertész, *L. livida* Hendel and *L. pictipennis* (Walker) are newly recorded from China; *L. decora* (Fabricius) is newly recorded from Malaysia and Borneo; *L. formosae* Kertész is newly recorded from India. Moreover, a key to the species, diagnoses of all species and illustrations of wings and genitalia for some species are provided.

**Key words:** Diptera; Platystomatidae; *Loxoneura*; new species; Oriental Region

The genus *Loxoneura* belongs to the subfamily Platystomatinae (Diptera: Platystomatidae), it was erected by Macquart in 1835 for a single species, *L. decora* (Fabricius) from Indonesia. The genus is apparently restricted to the Oriental Region, and 11 species have been recorded so far (Frey, 1964; Steyskal, 1977; Wang et al., 2004), but no comprehensive revision of the genus has been made.

This study treats all of the known species of *Loxoneura* Macquart in the Oriental Region. Based on the examination of type- and non-type specimens from this region, a total of 12 species are presently recognized, one of which is described as new to science. The generic characters are discussed. New geographical distributions of several previously known species are reported. A key to the species, diagnoses and illustrations are provided.

Morphological terminology generally follows F. J. McAlpine (1981). Length of body and wing is measured in millimeters. The four ratios used in the descriptions as follows: frons-eye ratio (width of frons / width of eye at ocellar triangle in dorsal view); gena-eye ratio (genal height / longest eye diameter in lateral view); clypeus-face ratio (vertical length of clypeus / vertical length of face in anterior view).

The abbreviations of material depositories used in this paper as follows: BMNH (The Natural History Museum, London, UK); IZCAS (Institute of Zoology, Chinese Academy of Sciences, Beijing, China); NWSTUAF (Northwest Science and Technology

University of Agriculture and Forestry, Yangling, Shaanxi, China).

## Genus *Loxoneura* Macquart

*Loxoneura* Macquart, 1835: 446. Type species: *Dictya decora* Fabricius, by monotypy.

*Zona* Walker, 1849: 806, 1162. Type species: *Tephritis violacea* Gray (= *Dictya decora* Fabricius), by designation of Steyskal (1977: 144).

*Macrortalis* Matsumura, 1916: 433. Type species: *Macrortalis taiwanis* Matsumura (= *Loxoneura formosae* Kertész), by original designation.

**Generic characters** Medium-sized; robust, blackish brown to black body with orange to red-orange head. Face with a median carina, antennal grooves deeply concave. Antenna obviously shorter than face; 1st flagellomere rounded at apex, about 1.5–2.0 times as long as pedicel; arista short plumose. Clypeus large and long, greatly extended posteroventrally. Scutellum swollen. Wing hyaline with brown and yellow markings, posteroapical angle of cell cup distinctly extended and acute, r-m crossvein strongly oblique and situated behind middle of cell dm (Figs. 1–10). Chaetotaxy reduce and weak, all the bristles black; head with only a pair of outer vertical and genal bristles; thorax usually with a pair of postalar, intra-alar, prescutellar, dorsocentral, anepisternal bristles; 2 pairs of notopleural bristles and 3 pairs of scutellar bristles; postpronotal bristles absent or present; dorsocentral bristles approximately situated a level with prescutellar bristles. Fore femur with a row of posteroventral black

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spines; fore tibia normal in shape in female or deeply concave at dorsal apex in male; mid tibia with 3 apical spines ventrally. Fifth abdominal tergum well developed and 6th tergum reduced in both sexes. Male terminalia: epandrium strongly elongated basoventrally; inner surstylus with 2 apical black teeth, distiphallus (glans) oval with two slender terminal filaments; pre-distiphallus (preglans) usually elliptical, about half as wide as distiphallus; cercus large and broad (Figs. 11, 14, 17); ejaculatory apodeme fun-shaped (Figs. 13, 16, 19). Female terminalia: oviscape compressed dorsoventrally, slightly shorter than or equal in length to 5th tergum; spermathecae round, all are well developed (Figs. 21, 23, 25, 27); aculeus elongate, setulose apically, rounded at apex (Figs. 20, 22, 24, 26).

#### Distribution Oriental Region.

**Remarks** This genus is closely related to *Prosthiochaeta* Enderlein in body shape and coloration, structures of male distiphallus and female aculeus; but differs from the latter by the following combination of characters: (1) arista plumose; lunule and gena comparatively narrow; (2) genal bristles present; inner vertical, ocellar and postocellar bristles absent; (3) wing markings predominantly brown, tinged with yellow; cell cup obviously produced and acute-shaped at posteroapical angle, r-m crossvein strongly oblique and situated behind middle of cell dm; (4) fore tibia exhibited sexual dimorphic: deeply concave at the dorsal apex in male or normal in shape in female; (5) epandrium strongly elongated basoventrally; (6) all of 3 spermathecae are round and well developed.

It should be noted that *L. vitalisiana* Frey (Frey, 1964: 12) from Laos (excluding this study) is possibly a synonym of *L. livida* Hendel. We cannot confirm this placement because I have not seen the type specimen and Frey's original description is too simple. It will be necessary to examine further material in order to clarify this problem.

#### Key to species of *Loxoneura* Macquart known from Oriental Region

1. Wing hyaline with a brown costal band and 2 brown transverse bands ..... 2  
Wing pattern not as above ..... 7
2. Proboscis entirely orange or with prementum brown to blackish brown; scutum without a row of additional bristles at the posterolateral portion ..... 3  
Proboscis entirely black; scutum with a row of additional bristles at the posterolateral portion; proepisternum covered with black setulae; costal brown band complete, with 3 small hyaline spots along costal margin; basal brown band ending apex of cell cup in male (Fig. 6) or extending to posterior margin in female (Fig. 7) ..... *L. perilampoides* Walker
3. Wing with median brown transverse band gradually narrowed posteriorly; apical portion of cell dm with a triangular hyaline spot; r-m crossvein situated distinctly behind middle of cell dm ..... 4  
Wing with median brown transverse band gradually widened

- posteriorly, apical portion of cell dm entirely brown, r-m crossvein situated slightly behind middle of cell dm (Figs. 4 – 5); scutum with a pair of postpronotal bristles; proepisternum covered with blackish brown to black setulae ..... *L. melliana* Enderlein
4. Median brown transverse band broad, the width of posterior apex equal to length of dm-cu crossvein ..... 5  
Median brown transverse band narrow, the width of posterior apex much less than length of dm-cu crossvein; costal brown band interrupted beyond apex of vein  $R_1$  by a hyaline indentation in both sexes ..... *L. disjuncta* Wang et Chen
  5. Posteromedial hyaline indentation between basal and median brown transverse bands relatively short, extending from posterior margin to vein  $CuA_1$  or ending cell  $cua_1$  ..... 6  
Posteromedial hyaline indentation between basal and median brown transverse bands relatively long, extending from posterior margin to vein  $R_{4+5}$  (Fig. 3) ..... *L. livida* Hendel
  6. Costal band entirely brown, without hyaline spot along costal margin; posteromedial hyaline indentation extending from posterior margin to vein  $CuA_1$ ; posteroapical hyaline indentation ending cell  $r_{4+5}$  anteriorly (Fig. 10) ..... *L. tibetana* sp. nov.  
Costal brown band usually with 1 – 3 small hyaline spots along costal margin; posteromedial hyaline indentation ending anterior portion of cell  $cua_1$ ; posteroapical hyaline indentation extending from posterior margin to vein  $CuA_1$  ..... *L. formosae* Kertész
  7. Wing with brown costal band interrupted by 3 yellow indentations, and 2 median transverse brown bands strongly oblique, a row of small round brown spots on vein  $R_{4+5}$  ..... *L. fascipennis* Hendel  
Wing pattern not as above ..... 8
  8. Thorax without postpronotal bristles ..... 9  
Thorax with a pair of postpronotal bristles; wing pattern predominantly brown, with yellow mark in apical portions of cells  $r_1$  and  $r_{2+3}$ , and a large triangular hyaline indentation beyond apex of vein  $R_1$  extending from costa to cell  $r_{4+5}$  (Fig. 1) ..... *L. decora* (Fabricius)
  9. Prementum blackish brown to black; antenna about 3/5 as long as face, 1st flagellomere about 1.5 times as long as pedicel; fore femur with more than 8 posteroventral spines ..... 10  
Prementum orange to brownish orange; antenna about 3/4 as long as face, 1st flagellomere about twice as long as pedicel; fore femur with 5 – 7 posteroventral spines; wing with one large hyaline spot in cell br and one longitudinal hyaline vitta in cell dm, anterior portion of cell  $cua_1$  narrowly brown, apical brown band connected with median brown patch in male (Fig. 8) or isolated in female (Fig. 9) ..... *L. pictipennis* (Walker)
  10. Wing with apical brown band isolated in both sexes; and a costal yellow indentation in apical portion of cell c relatively large, extending to vein  $R_{4+5}$  posteriorly ..... *L. yunnana* Wang et Chen  
Wing with apical brown band connected with basomedial brown markings; and a costal hyaline to yellow spot in apical portion of cell c rather small, ending vein  $R_1$  or  $R_{2+3}$  (Fig. 2) ..... *L. fascialis* Kertész

#### *Loxoneura decora* (Fabricius, 1805) (Fig. 1)

*Dictya decora* Fabricius, 1805: 327.

*Tephritis violacea* Gray, 1882: 779. Synonymized by Hendel (1914: 98).

*Loxoneura bakeri* Bezzi, 1916: 38. Synonymized by Steyskal (1977: 144).

*Loxoneura decora* (Fabricius): Wiedemann, 1835: 446; Enderlein, 1912: 348; Hendel, 1914: 97; Frey, 1964: 11; Steyskal, 1977: 144.

**Diagnosis** This species is easily differentiated from other members of the genus by the presence of postpronotal bristles; face yellow to orange, covered with silvery pollen; frons range to red-orange, frons-eye ratio 0.76–0.81; gena-eye ratio 0.11–0.13; antenna entirely orange, about 3/4 as long as face, 1st flagellomere twice as long as pedicel; arista plumose; proboscis entirely orange, clypeus-face ratio 0.66–0.88; wing pattern predominantly brown, with yellow marks in apical portions of cells  $r_1$  and  $r_{2+3}$ ; a large triangular hyaline indentation beyond apex of vein  $R_1$  extending from costal margin to cell  $r_{4+5}$ , cells  $r_1$  cell c usually with 2 hyaline spots, cell  $r_{2+3}$  with a small hyaline spot at apex, r-m crossvein situated behind middle of cell dm (Fig. 1); fore femur with 4–6 strong posteroventral spines. Length: body 10–12 mm; wing 11–13 mm.

**Material examined** 1 ♂, Indonesia: Java, IV. 1968, Saunders; 2 ♀♀, Borneo: Batau Bessi, II. 1938, E. le Moutt; 1 ♀, Malaysia: Selangor, Ulu Gombak, 800ft, 10–12. IX. 1983, J. W. Ismay (BMNH).

**Distribution** Nepal; Philippines: Palawan; Malaysia (new record); Indonesia: Sumatra, Java; Borneo (new record).

**Remarks** The wing pattern exhibited weakly sexual dimorphic: the male wing was figured by Hendel (1914), with 2 or 4 hyaline spots in cell dm and a narrow brown band in middle portion of cell m; whereas in the female, wing with only a large longitudinal hyaline stripe in cell dm and lacking brown band in middle portion of cell m (Fig. 1).

***Loxoneura disjuncta* Wang et Chen, 2004** (Figs. 11, 16–17, 20, 24)

**Diagnosis** This species closely resembles *L. livida* Hendel in general appearance, especially the wing pattern; but differs primarily from the latter by having the median brown transverse band relatively narrow, the posterior width much less than length of dm-cu crossvein; costal brown band distinctly interrupted beyond apex of cell  $r_1$  by a hyaline indentation in both sexes (the wing was figured by Wang et Chen, 2004). The characters of male and female genitalia are also different from each other (Figs. 11, 16–17, 20, 24).

**Material examined** Holotype ♂, China: Sichuan: Hongchongping, 1 000 m, 12. VI. 1957, LU You-Cai (IZCAS). Paratypes: 1 ♂, 3 ♀♀, same data with holotype; 1 ♀, Sichuan: Guanxian, 700–1 000 m, 29. V. 1963, Zhang Xue-Zhong; 1 ♂, Sichuan: Mt. Emei, 800–1 000 m, 25. VI. 1957, ZHU Fu-Xing; 2 ♀♀, Henan: Longyuwan, 1 000 m, 17. VIII. 1997–19. V. 1998 (IZCAS); 1 ♂, 1 ♀, Henan: Longyuwan, 940–2 000 m, 14–17. VII.

1996, ZHEN Tao and HUA Bao-Zhen (NWSTUAF).  
Distribution China: Sichuan, Henan.

***Loxoneura fascialis* Kertész, 1897** (Fig. 2)

*Loxoneura fascialis* Kertész, 1897: 617. Hendel, 1914: 98; Frey, 1964: 11; Steyskal, 1977: 144.

*Loxoneura ornata* Brunetti, 1913: 275. Synonymized by Steyskal (1977: 144).

**Diagnosis** This species appears to be closely related to *L. yunnana* sp. nov. in the body coloration, wing pattern and number of posteroventral spines on fore femur, differing primarily from the latter by having the hyaline spot in apical portion of cell c rather small; apical brown band connected with basomedial brown markings (Fig. 2). Length: body 9.5–10 mm; wing 10–11 mm.

**Material examined** 2 ♂♂, China: Yunnan: Jinping, 400–420 m, 26–29. IV. 1956, HUANG Ke-Ren (IZCAS).

**Distribution** China: Yunnan (new record); India: Assam, Kerala, Sikkim; Viet Nam.

***Loxoneura fascipennis* Hendel, 1914**

*Loxoneura fascipennis* Hendel, 1914: 195. Steyskal, 1977: 144.

**Diagnosis** This species is readily differentiated from all others of the genus by distinctive wing markings: hyaline with 3 prominent brown bands, 2 of which strongly oblique: one through r-m crossvein and along vein M reaching to dm-cu crossvein, the other along vein  $CuA_1$  extending to posterior margin; costal brown band obviously interrupted by 3 yellow indentations; and a row of small, round brown spots on vein  $R_{4+5}$  (referring to Hendel, 1914, Pl. 9: Fig. 168).

**Material examined** Co-types: 2 ♂♂, Borneo: Northwest (BMNH).

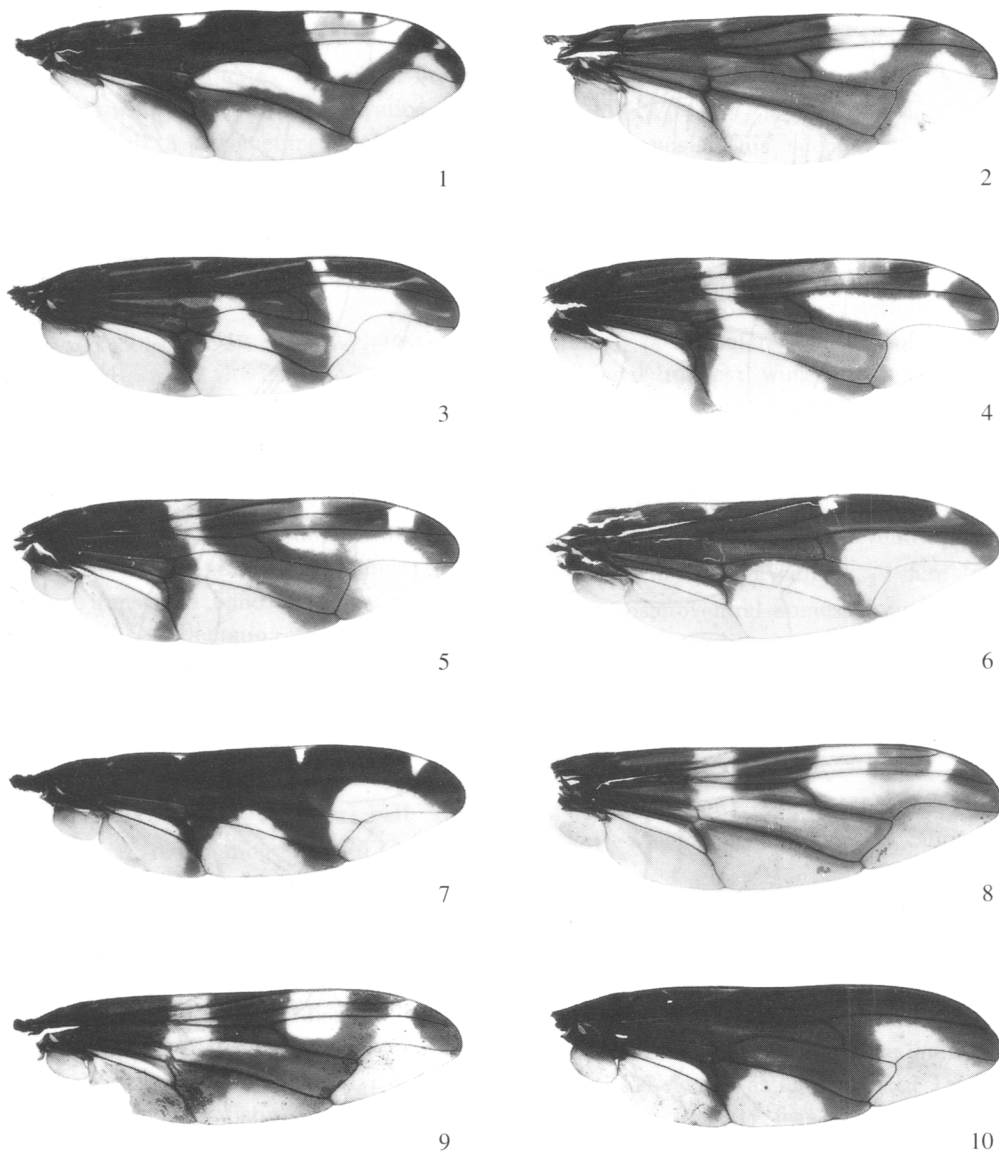
**Distribution** Borneo.

***Loxoneura formosae* Kertész, 1909**

*Loxoneura formosae* Kertész, 1909: 338. Hendel, 1914: 98; Frey, 1964: 11; Steyskal, 1977: 144.

*Loxoneura taiwanus* Matsumura, 1916: 432. Synonymized by Steyskal (1977: 144).

**Diagnosis** This species is characterized by the proboscis entirely orange, clypeus-face ratio 0.81–0.87; frons orange to red-orange, frons-eye ratio 1.0–1.1; face with lateral brown vittae on antennal grooves, median carina pale yellow; gena-eye ratio 0.18–0.19; antenna orange, tinged with dark brown, about 3/5 as long as face; 1st flagellomere 1.5 times as long as pedicel; arista plumose; wing hyaline in ground color with a complete costal brown band and 2 brown transverse bands, costal brown band usually with 2–3 small hyaline spots along costal margin, posteroapical hyaline indentation extending from posterior margin to vein  $R_{4+5}$ , and posteromedian hyaline indentation

Figs. 1 – 10 Right wings of *Loxoneura* Macquart

1. *L. decora* (Fabricius); 2. *L. fascialis* (Kertész); 3. *L. livida* Hendel; 4 – 5. *L. melliana* Enderlein;  
6 – 7. *L. perilampoides* Walker (♂, ♀); 8 – 9. *L. pictipennis* (Walker) (♂, ♀); 10. *L. tibetana* sp. nov.

between basal and median brown bands relatively short, ending anterior portion of cell  $cua_1$ ; fore femur with 5 – 6 strong posteroventral spines. Length: body 12 – 13 mm; wing 13 – 14 mm.

**Material examined** 1 ♀, China: Taiwan: Bikoi, II, F. Yano; 1 ♂, India: Calcutta, 1927, Brunetti (BMNH).

**Distribution** China: Taiwan; India (new record).

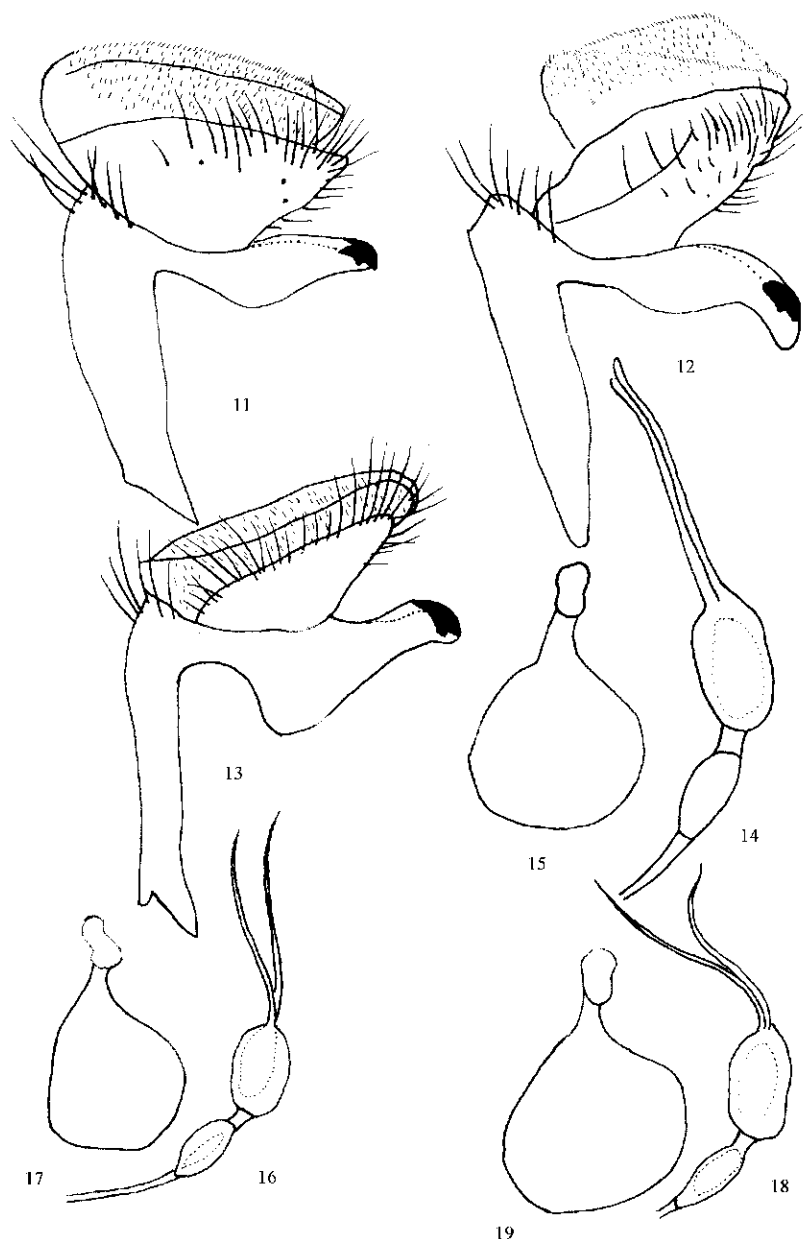
**Remarks** This species is very similar to *L. tibetana* sp. nov. in general appearance, differing primarily from the latter in having the distinctive wing markings.

***Loxoneura livida* Hendel, 1914** (Figs. 3, 12, 18 –

19, 21, 26)

*Loxoneura livida* Hendel, 1914: 157. Fery, 1964: 11; Steyskal, 1977: 144.

**Diagnosis** This species is closely related to *L. formosae* Kertész in general characters, but differs from the latter by having a hyaline spot in cell br and a large hyaline patch in basal portion of cell dm; cell  $cua_1$  hyaline with extreme base and apex brown (Fig. 3); fore femur with 7 – 9 posteroventral spines. Male epandrium strongly elongated basoventrally, inner surstylus with 2 apical black teeth, distiphallus oval with two slender terminal filaments; cercus large and broad (Fig. 12); pre-distiphallus elliptical, about half as wide as distiphallus; terminal filaments about 2.5 times as long as distiphallus (Fig. 18); ejaculatory

Figs. 11 - 19 Male genitalia of *Loxoneura* Macquart11 - 13. Epandrium, cercus and surstylus profile: 11. *L. disjuncta* Wang et Chen, 12. *L. livida* Hendel,13. *L. melliana* Enderlein; 14 - 19. Distiphallus and ejaculatory apodeme:14 - 15. *L. melliana* Enderlein, 16 - 17. *L. disjuncta* Wang et Chen, 18 - 19. *L. livida* Hendel

apodeme fun-shaped (Fig. 19). Oviscape black, flatended dorsoventrally, more or less triangular, about as long as 5th tergum; aculeus elongate, rounded at apex and with preapical setulae (Fig. 21); spermathecae round, branched tube slender and elongate, about 1.6 times as long as spermatheca (Fig. 26). Length: body 11.5 - 14.0 mm; wing 12.5 - 15.0 mm.

**Material examined** 2 ♂♂, China: Yunnan: Xishuangbanna, 850 - 1 400 m, 16. IV - 4. X. 1957, WANG Shu-Yong; 2 ♂♂, same locality as above, 870 m, 7. VII. 1958, PU Fu-Ji; 1 ♀, as above, 870

m, 6. IX. 1958, WANG Shu-Yong; 1 ♀, as above, 1 050 - 1 080 m, 6. VI. 1958, WANG Shu-Yong; 2 ♂♂, 1 200 - 1 400 m, 13. V. 1958, MENG Xu-Wu; 1 ♂, as above, 850 m, 4. VI. 1958, CHEN Zhi-Zi; 1 ♂, as above, 620 - 650 m, 10. VI. 1959, PU Fu-Ji; 4 ♂♂, 5 ♀♀, Yunnan: Menglongbanna, 1 600 m, 25. IV. 1958, CHEN Zhi-Zi; 2 ♂♂, 4 ♀♀, as above, 24. IV. 1958, HONG Chun-Pei, PU Fu-Ji; 2 ♀♀, as above, 23 - 24. IV. 1958, MENG Xu-Wu; 1 ♂, 2 ♀♀, as above, 25 - 28. IV. 1958, WANG Shu-Yong; 1 ♀, Yunnan: Menghai, 1 100 - 1 200 m, 28. IV. 1957, PU Fu-Ji (IZCAS).

**Distribution** China: Yunnan (new record);  
India: Assam; Laos.

**Remarks** It should be indicated that wing markings in this species are variable. The costal brown band usually complete with only 1–2 small hyaline spot in apical portion of cell  $r_1$ ; sometimes costal band interrupted just beyond apex of vein  $R_1$  by a hyaline indentation.

***Loxoneura melliana* Enderlein, 1924** (Figs. 4–5, 13–15, 22, 27)

*Loxoneura melliana* Enderlein, 1924: 118. Frey, 1964: 11; Steyskal, 1977: 144.

**Diagnosis** This species is easily identified by having a pair of weak postpronotal bristles; proepisternum covered with blackish brown to black setulae; face yellow with 2 lateral brownish orange to brown vittae on antennal grooves; antenna about 3/5 as long as face; proboscis orange to brownish orange; wing with median brown transverse band gradually widened posteriorly, a pale yellow indentation at apex of cell  $c$  extending to vein  $R_{4+5}$  and jointed with posteromedian hyaline indentation, apical portion of cell  $r_1$  with a pale yellow spot and cell  $r_{2+3}$  with a hyaline spot just beyond apex vein  $R_{2+3}$ , apical portion of cell  $dm$  entirely brown, a longitudinal hyaline vitta in cell  $r_{4+5}$  connected with hyaline indentation in cell  $m$ ,  $r-m$  crossvein situated slightly behind middle of cell  $dm$  (Figs. 4–5); fore femur with 5–11 strong posteroventral spines. Male epandrium strongly elongated basoventrally, cercus broad, inner surstylus with 2 apical black teeth (Fig. 13); distiphallus oval with two slender terminal filaments; pre-distiphallus elliptical, about half as wide as distiphallus; terminal filaments about twice as long as distiphallus (Fig. 14); ejaculatory apodeme fun-shaped (Fig. 15). Female oviscape black, flatended dorsoventrally, more or less triangular, about as long as 5th tergum; aculeus elongate, rounded at apex and with preapical setulae (Fig. 22); spermathecae round, branched tube broad and short, about 0.8 times as long as spermatheca (Fig. 27). Length: body 7–13 mm; wing 8–14 mm.

**Material examined** 6 ♂♂, 3 ♀♀, China: Sichuan: Mt. Emei, 800–1 000 m, 29. V. – 13. VI. 1957, HUANG Ke-Re; 2 ♂♂, 5 ♀♀, same locality as above, 10–13. VI. 1957, HUANG Ke-Ren & JIN Gen-Tao; 5 ♀♀, Jiangxi, 9–13. IV. 1959; 1 ♀, Guizhou: Chishui, 30. V. 2000, SUN Qiong-Zhang; 1 ♂, Fujian: Chongan, 840 m, 12. VII. 1963, ZHANG You-Wei (IZCAS).

**Distribution** China: Jiangxi, Sichuan, Guangdong, Fujian, Guizhou.

***Loxoneura perilampoides* Walker, 1858** (Figs. 6–

7)

*Loxoneura perilampoides* Walker, 1858: 226. Hendel, 1914: 98; Frey, 1964: 11; Steyskal, 1977: 144.

*Loxoneura rugulosa* Kertész, 1901: 431.

*Loxoneura hoenei* Enderlein, 1937: 437. Synonymized by Steyskal (1977: 145).

**Diagnosis** This species is readily differentiated from other known species of the genus by having entirely black proboscis; median carina of face strongly narrowed; antenna entirely red-orange, about 3/4 as long as face; 1st flagellomere twice as long as pedicel; arista short plumose; proepisternum covered with black setulae; posterolateral portion of scutum with 5–6 additional bristles; wing with a complete costal brown band and 2 brown transverse bands, of which basal brown band ending apex of cell  $c$  in male (Fig. 6) or extending to posterior margin in female (Fig. 7); with 3 small hyaline spots along costal margin: one in apical portion of cell  $c$ , one just beyond apex of cell  $r_1$ , and the other in apex of cell  $r_{2+3}$ ; fore femur with 7–8 strong posteroventral spines. Length: body 7–9 mm; wing 8–10 mm.

**Material examined** 1 ♀, China: Guangxi: Jinxiu, 1 100 m, 12. V. 1999, LI Wen-Zhu; 1 ♀, Guangxi: Longzhou, Daqinshan, 360 m, 27. IV. 1963, SHI Yong-Shan (IZCAS).

**Distribution** China: Jiangsu, Zhejiang, Guangxi; India: Sikkim; Laos; Indonesia: Sumatra.

***Loxoneura pictipennis* (Walker, 1849)** (Figs. 8–9)

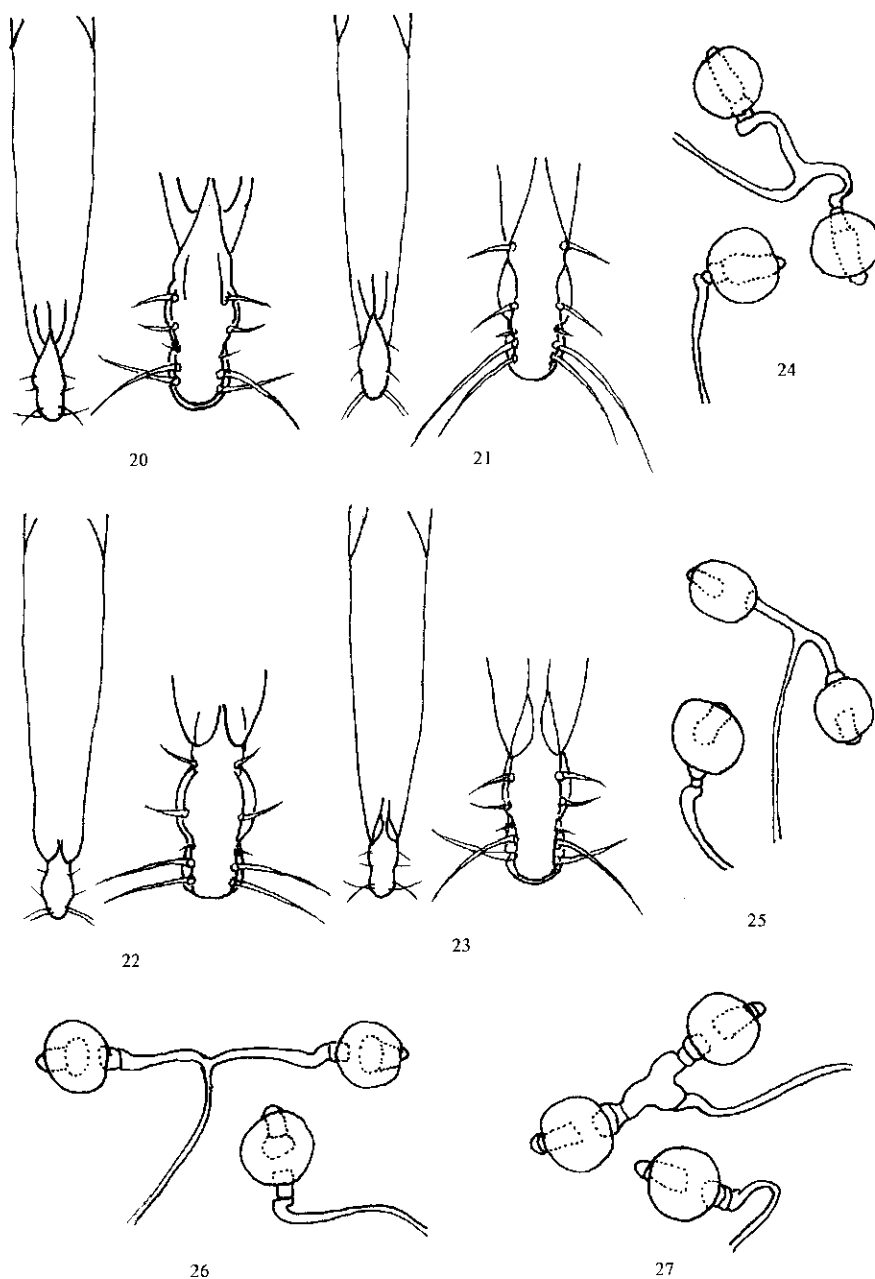
*Zona pictipennis* Walker, 1849: 807. Steyskal, 1977: 145.

*Loxoneura trimaculata* Hendel, 1914: 195. Frey, 1964: 11. Synonymized by Steyskal (1977: 145).

**Diagnosis** This species differs from other known species of the genus by the antennae orange to red-orange, about 3/4 as long as face; 1st flagellomere twice as long as pedicel; face red-orange with facial carina pale yellow; frons-eye ratio 0.74–1.0; gena-eye ratio 0.16–0.19; proboscis orange, prementum orange to brownish orange; clypeus pale yellow, clypeus-face ratio 0.81–0.88; wing with one large hyaline spot in cell  $br$  and one longitudinal hyaline vitta in cell  $dm$ , anterior portion of cell  $cua_1$  narrowly brownish, apical brown band connected with median brown patch in male (Fig. 8) or isolated in female (Fig. 9); fore femur with 5–7 posteroventral spines. Length: body 11–14 mm, 12–15 mm.

**Material examined** 1 ♂, Myanmar (Burma): Mt. Victoria, Chindhills, 2 000 m, VI. 1938, leg. G. Heinrich; 1 ♀, India: Punjab, Khyra Gully, H. Roberts (BMNH). 1 ♂, China: Yunnan: Menglongbanna, 1 600 m, 26. IV. 1958, ZHANG Yi-Ran; 1 ♂, Xizang: Nyalam, 1 800 m, 6. V. 1966, WANG Shu-Yong (IZCAS).

**Distribution** China: Yunnan and Xizang (new record); Myanmar; India: Sikkim; Nepal.



Figs. 20–27 Female genitalia of *Loxoneura* Macquart

20–23. Aculeus in ventral view (whole and apex): 20. *L. disjuncta* Wang et Chen, 21. *L. livida* Hendel, 22. *L. melliana* Enderlein, 23. *L. yunnana* Wang et Chen; 24–27. Spermathecae: 24. *L. disjuncta* Wang et Chen, 25. *L. yunnana* Wang et Chen, 26. *L. livida* Hendel, 27. *L. melliana* Enderlein

***Loxoneura tibetana* sp. nov.** (Fig. 10)

Female Head height 1.53 length; with a pair of outer vertical and genal bristles. Frons orange, slightly converging posteriorly, covered with small black hairs and 2 white pollinosity vittae narrowly on lateral margins; frons-eye ratio 1.3. Ocellar triangle black. Lunule rather narrow. Face with 2 brown lateral vittae on antennal grooves, facial carina pale yellow. Parafacialia densely white pollinose. Gena orange, gena-eye ratio 0.16. Antenna brownish orange, about

3/5 as long as face; 1st flagellomere dark brown to black, rounded at apex, about 1.5 times as long as pedicel; arista plumose. Clypeus entirely pale yellow, clypeus-face ratio 0.78. Proboscis entirely orange; palpi elongate. Outer ventral part of occiput swollen.

Thorax entirely brownish black to black, with a pair of postalar, intra-alar, prescutellar, dorsocentral, anepisternal bristles, 2 pairs of notopleural bristles and 3 pairs of scutellar bristles; postpronotal bristles absent; dorsocentrals approximately situated with

prescutellar bristles. Proepisternum yellowish brown setose. Wing markings brown, costal band obviously widened, continuously extending from the base to the apex of wing; lacking hyaline spot along costal margin; 2 transverse bands connected with costal band, of which median band rather broad, extending to posterior margin, and basal band relatively narrow and short; posteromedian hyaline indentation extending from posterior margin to vein  $CuA_1$ ; posteroapical hyaline indentation ending cell  $r_{4+5}$  anteriorly; cell dm almost entirely brown except for extreme apex; r-m crossvein situated behind middle of cell dm (Fig. 10). Legs entirely black, fore femur with 5 posteroventral spines; fore tibia normal in shape. Calypters lobate, white-yellow. Halteres black.

Abdominal terga shining black with weak metallic blue reflections; 6th tergum reduced. Pleural membrane densely covered with yellow pollinosity. Oviscape black, flattened dorsoventrally, equal in length to 5th tergum; aculeus elongate, setose apically and rounded at apex. Length: body 13 mm; wing 14 mm.

Male Unknown.

**Material examined** Holotype ♀, China: Xizang: Medog, 300 – 1 200 m, 10. VI. 1987, HAN Yin-Hen (IZCAS).

**Etymology** This species is named for the type locality.

**Distribution** China: Xizang.

**Remarks** This species appears to be related to *L. formosae* Kertész, differing primarily from the latter by the costal band entirely brown and lacking hyaline spot along costal margin; posteroapical hyaline indentation reaching to cell  $r_{4+5}$  anteriorly; hyaline indentation between basal and median brown bands extending from posterior margin to vein  $CuA_1$ ; cell  $cua_1$  hyaline with only the base and apex brownish.

***Loxoneura yunnana* Wang et Chen, 2004** (Figs. 23, 25)

**Diagnosis** This species is very similar to *L. pictipennis* (Walker), differing primarily by the prementum blackish brown to black; antenna relatively short, 3/5 as long as face; 1st flagelomere dark brown to black, about 1.5 times as long as pedicel; face usually with lateral brown vittae on antennal grooves; costal yellow indentation in apical portion of cell c reaching to vein  $R_{4+5}$ ; cell dm entirely brown, cell  $cua_1$  almost entirely hyaline except for extreme base and apex; fore femur with 8 – 13 posteroventral spines. It appears to be related to *L. fascialis* Kertész, but differs from the latter by the wing pattern: the apical brown band obviously separated from median brown patch in

both sexes; and a costal yellow indentation relatively large, extending to vein  $R_{4+5}$  (the wing was figured by Wang et Chen, 2004). The aculeus elongate, setose apically (Fig. 23); three spermathecae well developed and round, one of them obviously larger than two others (Fig. 25).

**Material examined** Holotype ♀, China: Yunnan: Ruili, 850 m, 14. VI. 1956, HUANG Tian-Rong (IZCAS). Paratypes: 1 ♂, Yunnan: Menglongbanna, 1 200 m, 19. VI. 1956, CHEN Zhi-Zi; 1 ♀, Yunnan: Xishuangbanna, 1 100 m, 14. VIII. 1957, HUANG Shu-Yong; 1 ♀, same locality as above, 1 750 m, 25. VI. 1958, PU Fu-Ji; 1 ♀, as above, 2 200 m, 28. IX. 1957, ZANG Ling-Chao; 1 ♀, as above, 750 m, 7. VI. 1958, MENG Xu-Wu (IZCAS).

**Distribution** China: Yunnan.

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# 东洋界肘角广口蝇属分类研究及一新种记述 (双翅目: 广口蝇科)

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**摘要:** 检视和研究了东洋界肘角广口蝇属 *Loxoneura* Macquart(双翅目: 广口蝇科)的全部种类, 确认目前该属共知 12 种。详细记述了其中的一新种: 西藏肘角广口蝇 *L. tibetana* sp. nov.。记载了下列 5 种的地理分布新记录: 大斑肘角广口蝇 *L. fascialis* Kertész、三带肘角广口蝇 *L. livida* Hendel 和花翅肘角广口蝇 *L. pictipennis* (Walker) 为中国新记录种; 艳丽肘角广口蝇 *L. decora* (Fabricius) 为马来西亚和婆罗洲的新记录种; 台湾肘角广口蝇 *L. formosae* Kertész 为印度新记录种。讨论了肘角广口蝇属的属征, 并提供全部已知种类(除老挝肘角广口蝇 *L. vitalisiana* Frey 外)的鉴别特征、分种检索表及其有关特征图。

**关键词:** 双翅目; 广口蝇科; 肘角广口蝇属; 新种; 东洋界

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